Ground Station Network

- CNES
  - Toulouse – 9m
- NOAA
  - Wallops Island – 13m
  - Fairbanks – 13m
- Japan likely the fourth

- NOAA interested in tracking STEREO as long as possible

Data Flow

- s/c testing
  - P. Karn’s Viterbi decoding software ready to be tested
- Turbo encoding
  - Desired due to Eb/No
  - Licensing issue likely completed soon
  - The lawyers are talking
    - Down to who has jurisdiction in disputes
- Data transfer to SSC
  - Testing to take place in January from SEC to SSC

DATA BROWSERS and VIEWERS

- **Solar Weather Browser** B. Nicula, D. Berghmans, R. van der Linden ROB
  - User-friendly browser tool for finding & displaying solar data & (SWB) context information.
  - Uses fast internet access & caching.
  - Test version available at http://sidc.oma.be/SWB/.
- **STEREO Key Parameters** C. Russell & IMPACT, PLASTIC & SWAVES teams UCLA
  - An easily browseable Merged Key Parameter data display including the in-situ & SWAVE radio data from STEREO.
- **Carrington Rotation In-situ Browser** J. Luhmann, P. Schroeder UCB
  - Browser for identifying in-situ events & their solar sources at CR-time scales.
  - Includes near-Earth (ACE) data sets for third point views, & image movies from SECCHI & near-Earth (SOHO) s/c.
  - See: http://sprg.ssl.berkeley.edu/impact/data_browser/index.html .
- **JAVA-3D Synoptic Information Viewer** J. Luhmann, P. Schroeder UCB
  - JAVA-3D applet for viewing 3D Sun & solar wind sources based on synoptic solar maps & potential field models of the coronal magnetic field.

3-D IMAGING TOOLS

- **Tie Point Tool** E. DeJong, P. Liewer, J. Hall, J. Lorre JPL
  - Manually create tiepoints between features in SECCHI image pair & solve for 3D location in heliographic coordinates.

- **Geometric Localization Of CMEs** V. Pizzo, D. Biesecker NOAA
  - Tool utilizing a series of LOS's from two views to define the location, shape, size and velocity of a CME.
  - To be automated & used to decide whether and when a CME will impact Earth.

- **3D Structure of CMEs** V. Bothmer, H. Cremades, D. Tripathi MPI, Ger.
  - Program to compare analysis of SECCHI images on the internal magnetic field configuration & near-Sun evolution of CMEs with models based on SOHO observations.
  - Forecast flux rope structure; 3D visualization of CMEs.

AUTOMATED DETECTION and IDENTIFICATION

- **Computer Aided CME Tracking (CACTus)** E. Robbrecht, D. Berghmans, G. Lawrence, R. van der Linden ROB
  - Near-realtime tool for detecting CMEs in SECCHI images.
    - Outputs: QL CME catalog w/measures of time, width, speed; NRT CME warnings.
  - Successfully tested on SOHO LASCO CMEs.
  - Test version available at http://sidc.oma.be/cactus.
- **Computer Aided EUVI Wave & Dimming Detection** O. Podladchikova, D. Berghmans, A. Zhukov ROB
  - NRT tool for detecting EUV waves & dimming regions.
  - To be tested on SOHO EIT images.
- **Velocity Map Construction** J. Hochedez, S. Gissot ROB
  - Program to analyze velocity flows on SECCHI images; detect CME onsets & EUV waves; NRT warnings of fast CMEs; reconstruct 3D velocity maps of CMEs from 2D maps from each STEREO.
- **Automatic Solar Feature** D. Rust, P. Bernasconi, B. LaBonte, JHU/APL
  - Tool for detecting and characterizing solar filaments and sigmoids Recognition & Classification in solar images. Goal is to meas. magnetic helicity parameters & forecast eruptions using filaments & sigmoids.